

**BEFORE  
THE PUBLIC SERVICE COMMISSION OF  
SOUTH CAROLINA**

**DOCKET NO. 2018-319-E**

In the Matter of:	)	
	)	
Application of Duke Energy Carolinas, LLC	)	<b>DIRECT TESTIMONY OF</b>
for Adjustments in Electric Rate Schedules	)	<b>KODWO GHARTEY-TAGOE</b>
and Tariffs	)	<b>FOR DUKE ENERGY</b>
	)	<b>CAROLINAS, LLC</b>

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## **I. INTRODUCTION**

1   **Q.   PLEASE STATE YOUR NAME, BUSINESS ADDRESS AND POSITION**  
2       **WITH DUKE ENERGY CORPORATION.**

3   A.   My name is Kodwo Ghartey-Tagoe, and my business address is 40 West  
4       Broad Street, Greenville, South Carolina 29601. I am State President – South  
5       Carolina for Duke Energy Carolinas, LLC (“DE Carolinas” or “Company”)  
6       and Duke Energy Progress, LLC (“DE Progress”), both of which are wholly  
7       owned subsidiaries of Duke Energy Corporation (“Duke Energy”).

8   **Q.   BRIEFLY SUMMARIZE YOUR EDUCATIONAL BACKGROUND**  
9       **AND PROFESSIONAL AFFILIATIONS.**

10  A.   I earned my Juris Doctor degree from Duke University and a Bachelor of Arts  
11       degree, with joint honors in economics and finance, from McGill University  
12       in Montreal, Quebec. I also completed the Advanced Management Program at  
13       the Wharton School of Business. I am admitted to the North Carolina Bar.  
14       I serve on the Board of Directors of the United Way of Greenville County and  
15       the Palmetto Conservation Foundation, and on the board of visitors of Duke  
16       University Law School. I am also on the advisory board of Progress in  
17       Education, Inc., a charitable and educational organization I helped found in  
18       2000 to assist schools in Ghana to improve their quality of instruction, and to  
19       promote cross-cultural understanding between students in Ghana and students  
20       in America.

1   **Q.   PLEASE DESCRIBE YOUR BUSINESS BACKGROUND AND**  
2   **EXPERIENCE.**

3   A.   I have been in my current position since January 2017. Prior to that, I served  
4       as senior vice president of state and federal regulatory legal support for Duke  
5       Energy. I joined the Company in 2002 as chief regulatory counsel for Duke  
6       Power. I have served as vice president, legal, for Duke Energy's Commercial  
7       Businesses organization, and was responsible for providing legal advice to the  
8       Company's commercial businesses, including Duke Energy International,  
9       Duke Energy Renewables, Midwest Commercial Generation and Commercial  
10      Transmission. I also served as Duke Energy's general counsel for litigation,  
11      as well as vice president, legal – state regulation for Duke Energy's  
12      Franchised Electric and Gas business. Before joining the Company, I was a  
13      partner with McGuire Woods LLP in Richmond, Virginia.

14   **Q.   WHAT ARE YOUR RESPONSIBILITIES IN YOUR CURRENT**  
15   **POSITION?**

16   A.   I lead Duke Energy's regulated electric utility businesses in South Carolina,  
17       which include serving approximately 591,000 DE Carolinas electric  
18       customers in South Carolina. I am responsible for the financial performance  
19       of the Company's electric utility in South Carolina and managing state and  
20       local regulatory and governmental relations, and community affairs. I also  
21       have responsibility for advancing the Company's legislative and regulatory  
22       initiatives related to its electric operations.

1   **Q.   HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE**  
2       **COMMISSION?**

3   A.   Yes. On July 23, 2018, I testified before the Commission on behalf of DE  
4       Progress and DE Carolinas in an allowable ex parte proceeding in Docket No.  
5       ND-2018-19-E on the management of Duke Energy hydroelectric projects.

6   **Q.   WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

7   A.   The purpose of my testimony is to provide an overview of DE Carolinas'  
8       requested rate increase in support of the Company's Application in this case.  
9       In my testimony, I explain the primary cost drivers making up this requested  
10      rate increase, as well as the steps we have taken to minimize DE Carolinas'  
11      cost to provide safe, reliable, cost-effective and increasingly clean electricity  
12      to our customers, including work related to environmental compliance  
13      requirements. I explain how we are improving our grid in a manner to better  
14      our customers' lives and the economy of our State. Finally, I describe how the  
15      requested rate increase will allow the Company to remain a financially strong  
16      utility that is well positioned in financial markets to the benefit of our  
17      customers.

18   **Q.   WHO ARE THE OTHER WITNESSES PRESENTING TESTIMONY IN**  
19       **SUPPORT OF THE COMPANY'S APPLICATION IN THIS**  
20       **PROCEEDING?**

21   A.   The Company's other witnesses filing direct testimony in support of this case  
22       are:

- 1           1.       **Kim H. Smith**, Director of Rates & Regulatory, who describes the  
2                   results of DE Carolinas' operations under present rates on the basis of  
3                   an adjusted historical Test Period (twelve months ending December  
4                   31, 2017). Witness Smith details the calculation of the additional  
5                   revenue required as a result of the investments and general cost  
6                   increases since the last DE Carolinas Rate Case and discusses several  
7                   pro forma adjustments to the test year operating expenses and to the  
8                   end of year actual rate base. Witness Smith also explains the  
9                   calculations for various accounting requests the Company makes in its  
10                  Application. Further, Witness Smith provides the capital structure and  
11                  embedded cost of debt used by the Company in calculating its  
12                  proposed increase. Finally, Witness Smith explains the proposal the  
13                  Company is making regarding an excess deferred income taxes  
14                  ("EDIT") rider and cost recovery related to grid investments.
- 15          2.       **Steven Capps**, Senior Vice President of Nuclear Operations for Duke  
16                   Energy, who provides an update on capital additions in recent years, as  
17                   well as key drivers impacting nuclear operations and maintenance  
18                   ("O&M") costs. Witness Capps also discusses the operational  
19                   performance of DE Carolinas' nuclear generation fleet during the  
20                  January 1, 2017 through December 31, 2017 Test Period.
- 21          3.       **John Sullivan**, Director of Corporate Finance and Assistant Treasurer,  
22                   who addresses the Company's financial objectives, proposed capital  
23                   structure and cost of capital. Witness Sullivan also discusses the

1 current credit ratings and forecasted capital needs of the Company and  
2 the importance of DE Carolinas' continued ability to meet its financial  
3 objectives.

4 4. **David L. Doss Jr.**, Director of Electric Utilities and Infrastructure  
5 Accounting, who describes the financial position of DE Carolinas at  
6 December 31, 2017, and the actual results of the Company's  
7 operations for the Test Period. He also addresses depreciation expense  
8 and nuclear decommissioning costs. Finally, he details nuclear  
9 decommissioning costs allocated to the Company's South Carolina  
10 retail customers and that the Company is not including any  
11 decommissioning costs in its rate request.

12 5. **Janice Hager**, President of Janice Hager Consulting. Witness Hager  
13 supports the allocation of DE Carolinas' electric operating revenues  
14 and expenses, and original cost rate base assigned to the South  
15 Carolina retail jurisdiction and to each customer class.

16 6. **Robert B. Hevert**, Partner of ScottMadden, Inc., who presents his  
17 independent analysis of the Company's cost of equity. Witness Hevert  
18 discusses the Company's requested capital structure and makes a  
19 recommendation for an allowed return on equity ("ROE") to allow the  
20 Company to both attract capital on reasonable terms and maintain  
21 financial strength.

- 1           7.     **John Panizza**, Director of Tax Operations, who addresses the recently  
2                   enacted federal tax reform legislation, the Tax Cuts and Jobs Act (the  
3                   “Tax Act”), which became law on December 22, 2017.
- 4           8.     **Retha Hunsicker**, Vice President Customer Connect-Solutions for  
5                   Duke Energy. Witness Hunsicker discusses the Company’s Customer  
6                   Information Systems (“CIS”) and explains why it is necessary to  
7                   convert that CIS into a modern customer service platform, known as  
8                   Customer Connect.
- 9           9.     **Jon F. Kerin**, Vice President, Coal Combustion Products Operations,  
10                  Maintenance and Governance, who describes DE Carolinas’ ash basin  
11                  closure and compliance costs and plans, and the activities underlying  
12                  the costs sought for recovery in this case.
- 13          10.    **Dr. Julius (Chip) Wright, Ph.D.**, Managing Partner, J. A. Wright &  
14                  Associates, LLC, will testify to ratemaking policy and regulatory  
15                  approaches to the recovery of prudently incurred environmental  
16                  compliance costs.
- 17          11.    **Kimberly D. McGee**, Rates & Regulatory Strategy Manager with  
18                  Duke Energy, who supports the base fuel factor for base rates for all  
19                  customer classes for DE Carolinas.
- 20          12.    **Joseph A. Miller Jr.**, Vice President of Central Services, who provides  
21                  an update on the Company’s fossil, hydroelectric and solar  
22                  (collectively, “Fossil/Hydro/Solar”) facilities included for recovery in  
23                  this case. Witness Miller describes capital additions made in recent

1 years and capital investments planned for the upcoming years and key  
2 drivers impacting O&M costs. Witness Miller also discusses the  
3 operational performance of the Company's Fossil/Hydro/Solar fleet  
4 during the Test Period.

5 13. **Christopher M. Fallon**, former Vice President of Nuclear  
6 Development for Duke Energy. Witness Fallon provides background  
7 on the nuclear development activities related to the proposed Lee  
8 Nuclear Station Units 1 and 2 (referred to as the "Lee Nuclear  
9 Project") submitted in this case for cost recovery, and explains the  
10 Company's decision to cancel the Lee Nuclear Project as originally  
11 envisioned.

12 14. **Nils J. Diaz, Ph.D.**, a consultant at ND2 Group, LLC, who addresses  
13 the reasonableness and prudence of the strategy and efforts of the  
14 Company to obtain a combined operating license ("COL") for the Lee  
15 Nuclear Project.

16 15. **Jay W. Oliver**, General Manager, Grid Solutions Engineering and  
17 Technology, who discusses the Company's transmission and  
18 distribution ("T&D") system, the operation and performance of the  
19 T&D system and the costs necessary to operate, maintain and improve  
20 upon it, including providing detail on major grid investment initiatives,  
21 and the underlying investments to be recovered through the  
22 Company's Grid Improvement Plan.





1 approximately \$168 million on June 1, 2019, which represents an approximate  
2 overall 10 percent increase in our annual revenues. The Company is also  
3 presenting a three-year plan known as the South Carolina Grid Improvement  
4 Plan, which I believe will effectively serve customers now and in the years  
5 ahead. The Company's Application requests that the Commission approve the  
6 Grid Improvement Plan and expenditures for the next three years as detailed  
7 in Exhibit 9 to Witness Oliver's testimony. If approved, additional rate  
8 changes related to the Grid Improvement Plan would result in cost recovery of  
9 approximately \$16 million on June 1, 2020 and \$20 million June 1, 2021.

10 This increase is necessary to pay for investments to build a cleaner, more  
11 reliable and smarter energy future in South Carolina. Our investments include  
12 the complete deployment of new meters that align with a new customer  
13 information system to give customers more information and service options; full  
14 commercialization of our Prepaid Advantage program to allow all eligible DE  
15 Carolinas residential customers the opportunity to avail themselves of a  
16 prepayment plan that can eliminate the need for deposits. Additional customer  
17 focused changes include eliminating the need for our residential customers to  
18 pay a fee every time they use a credit or a debit card to make a payment, by  
19 including the amount of the fees in our cost of service and collecting them in  
20 rates.

21 Further, this case includes grid investments being made by the Company  
22 to improve and modernize our operations for the benefit of customers. The  
23 unique nature of these investments is why DE Carolinas is proposing the Grid

1 Improvement Plan, and is why we are seeking corresponding rate changes to  
2 recover the cost of the three-year plan, as discussed by Witnesses Smith, Oliver  
3 and Pirro.

4 These smart investments in technology, infrastructure, environmental  
5 protection and customer service will help connect customers to a cleaner, more  
6 reliable, smarter energy future. At Duke Energy, we know how vital electricity  
7 is to our customers and their families, as well as our state. Customers expect the  
8 Company to deliver electricity that is safe, reliable, affordable and increasingly  
9 clean, while also making smart investments that help communities and local  
10 economies thrive, create jobs and opportunities, and that provide more value  
11 every day.

12 We are providing customers with increasingly clean energy from state-  
13 of-the-art carbon-free nuclear plants and new, highly-efficient natural gas and  
14 utility-scale solar energy projects. In fact, nearly half of the electricity we  
15 generated in the Carolinas last year came from carbon-free resources,  
16 including hydro-electric facilities. Powering the lives of South Carolina's  
17 hard-working families and communities is the most important job we have.  
18 Our more than 4,000 dedicated Duke Energy employees who live and work  
19 every day in communities across our state— in good weather and bad – and the  
20 thousands more out of state employees who support our service in South  
21 Carolina, take this responsibility seriously. Smart investments in technology,  
22 infrastructure and environmental protection will help connect millions of our  
23 customers to a better energy future.

1   **Q.     IF APPROVED, WHAT WOULD BE THE IMPACT OF THE**  
2       **COMPANY’S REQUESTED INCREASE TO THE TYPICAL**  
3       **RESIDENTIAL CUSTOMER CONSUMING 1000 KWHS PER**  
4       **MONTH?**

5   A.    The requested revenue increase of \$168 million on June 1, 2019, followed by  
6        incremental increases to reflect additional grid investments in 2020 and 2021  
7        would result in the following increases by DE Carolinas’ rate classes: (1) a  
8        typical residential customer using 1,000 kWh will see an increase of  
9        approximately \$15.57 per month beginning with the rate effective date in this  
10       case, requested to be June 1, 2019, and then an increase of \$1.54 per month  
11       beginning June 1, 2020 and an additional \$1.92 per month beginning June 1,  
12       2021; commercial customers, on average, will see a 7.7 percent increase on  
13       June 1, 2019, and then an increase of 0.6 percent per month beginning June 1,  
14       2020 and an additional 0.8 percent increase per month beginning June 1,  
15       2021; industrial customers, on average, will see a 8.8 percent increase on June  
16       1, 2019, and then an increase of 0.4 percent increase per month beginning  
17       June 1, 2020 and an additional 0.5 percent increase per month beginning June  
18       1, 2021; lighting customers, on average, will see a 15.2 percent increase on  
19       June 1, 2019, and then an increase of 2.1 percent increase per month  
20       beginning June 1, 2020 and an additional 2.1 percent increase per month  
21       beginning June 1, 2021. More details can be found in the testimony of  
22       Witness Pirro.

1 DE Carolinas is also proposing, supported by costs to serve, an  
2 increase in the Residential Basic Facilities Charge from \$8.29 to \$28.00 per  
3 month effective June 1, 2019. This means that customers would be paying  
4 approximately \$0.93 cents per day for facilities in place to serve them,  
5 regardless of how much electricity is used. The increase in the Residential  
6 Customer Charge is not additive to the rate increase requested in this case.  
7 Rather, the proposed change is a more accurate reflection of how the  
8 Company collects its costs. The Company proposes to collect fixed cost  
9 through the fixed monthly charge based on the cost to serve instead of  
10 continuing to collect it through the variable, volumetric energy rate. We took  
11 this approach because current rates significantly understate the current cost of  
12 service related to the customer component of cost. Further, our requested fixed  
13 monthly charge is comparable to the fixed monthly charge established by  
14 many other electricity providers in the State. Witnesses Pirro and Hager  
15 explain this in further detail in their testimony.

### 16 **III. BASE RATE REQUEST**

17 **Q. PLEASE PROVIDE MORE DETAIL ABOUT THE INVESTMENTS**  
18 **DRIVING THE COMPANY'S REQUESTED 10.0 PERCENT**  
19 **OVERALL ADJUSTMENT TO ANNUAL REVENUES.**

20 A. Since DE Carolinas' last rate case in 2013 ("2013 Rate Case"), we have  
21 continued to invest in our facilities, equipment and operations to better serve  
22 our customers. For example, since the conclusion of the 2013 Rate Case, DE  
23 Carolinas has completed numerous nuclear, fossil, hydro and solar projects,

1 helping to provide customers with energy that is more reliable, efficient and  
2 cleaner than ever. DE Carolinas has invested approximately \$639 million in  
3 new gas-fueled generation, replacing older, less-efficient coal-fired generation  
4 with state-of-the-art, cleaner burning natural gas-fueled plants. A significant  
5 example is the W.S. Lee Combined Cycle (“Lee CC”) plant, completed in  
6 April 2018. The Lee CC features state-of-art technology for increased  
7 efficiency and significantly reduced emissions. Natural gas plants, including  
8 the Lee CC facility, emit carbon dioxide at about half the rate, and nitrogen  
9 and sulfur oxide emissions at a fraction of the rate of the units they replaced.

10 Further, to advance towards a more sustainable energy future, DE  
11 Carolinas constructed two large solar projects (Mocksville and Monroe) in  
12 2016 and 2017. These projects add a total of 75 MWs of nameplate capacity,  
13 providing 35 MWs of relative dependable summer capacity to DE Carolinas’  
14 generation fleet. The Company’s investment in these projects totaled \$152  
15 million. The Company also completed the relicensing effort for the 13  
16 hydroelectric facilities on the Catawba-Wateree river basins, totaling \$126  
17 million in capital investment. The 40-year license (FERC #2232) was granted  
18 in November 2015 and allows our stations to operate until 2055. The new  
19 license replaces the old license that expired in 2006. These investments will  
20 provide benefits to DE Carolinas’ customers for decades to come, as discussed  
21 by Witness Miller.

22 The Company’s Application also requests the recovery of costs for  
23 nuclear project development work completed for the Lee Nuclear Project, as

1 discussed by Witness Fallon. Witness Smith discusses the Company's  
2 proposal to recover these costs in the amount of \$20 million per year for 12  
3 years. The Company seeks to retain the combined operating license, or COL,  
4 granted by the NRC in December, 2016, in case circumstances change.  
5 Witness Diaz explains in his testimony why the Company's proposal to retain  
6 the COL is appropriate.

7 In addition, since the conclusion of the 2013 Rate Case, DE Carolinas  
8 has worked to improve reliability and customer service. To bring customers  
9 additional choices and insight on their usage, the Company has implemented  
10 AMI across the DE Carolinas' system and has replaced conventional meters  
11 with smart meters. As fully described in Witness Schneider's testimony, as of  
12 September 2018, DE Carolinas has completed its deployment of AMI,  
13 installing approximately 590,000 smart meters in its South Carolina service  
14 territory. The data enabled by AMI, when combined with the new Customer  
15 Connect System, will lead to expanded options and flexibility in supporting  
16 enhanced customer services and programs. Accordingly, we are seeking  
17 recovery of costs related to the implementation of Customer Connect and  
18 related to the deployment of the Company's new smart meters as discussed in  
19 detail in Witness Smith's testimony. See Witnesses Hunsicker and Schneider  
20 for additional information regarding the costs associated with Customer  
21 Connect and Smart Meters.

22 DE Carolinas also seeks to recover costs incurred and deferred since  
23 January 1, 2015 through December 31, 2018 to comply with federal and state

requirements related to CCRs. To mitigate rate impacts to customers, we request to recover these previously incurred expenses over a five year period in the amount of approximately \$62 million per year.<sup>1</sup> This case also includes the amortization of regulatory assets over time related to Lee CC;<sup>2</sup> smart meters;<sup>3</sup> the new Customer Connect system;<sup>4</sup> grid investments;<sup>5</sup> the Carolina West Primary Control Distribution Center;<sup>6</sup> and rate changes from the most recent depreciation study. Witness Smith provides detail regarding these deferral balances and the requested amortization.

**Q. HAS THE IMPACT OF THE TAX ACT BEEN INCORPORATED INTO THE COMPANY'S REQUEST?**

A. Yes. The proposed rates include a reduction from the corporate income tax rate from 35 percent to 21 percent. The Company also includes a proposal to flow back to customers, through a rider, excess deferred income taxes ("EDIT") and deferred revenue resulting from the Tax Act on utility operations. The Company's plan ensures that as customer benefit from the Tax Act, the Company is able to maintain the same financial strength it had prior to the Tax Act's passage. Finally, the Tax Act balances applied in this case include an offset to the balance accrued for Distributed Energy Program ("DERP") costs that have yet to be recovered. The balances have grown to \$40 million as of September 30, 2018, as provided by Witness Smith. Given

<sup>1</sup> This case excludes any fines or penalties incurred by DE Carolinas related to ash basin closure or management.

<sup>2</sup> Docket No. 2018-207-E, Order No. 2018-552 (2018).

<sup>3</sup> Docket No. 2016-240-E, Order No. 2018-552 (2018).

<sup>4</sup> See *supra* n. 2.

<sup>5</sup> Docket No. 2018-206-E, Order No. 2018-519 (2018).

<sup>6</sup> See *supra* n. 2



1 the benefits from the Tax Act, we thought it was reasonable to go ahead and  
2 eliminate those balances as the State explores additional options for rooftop  
3 solar. Otherwise it could be 15 years by the time we resolve those balances  
4 through existing channels.

5 The Company believes its Tax Act proposal provides appropriate near- and  
6 longer-term solutions that will lower customers' bills immediately from what  
7 they would otherwise be and help offset future rate increases.

8 The Company is also proposing rates be set on a return on equity  
9 ("ROE") of 10.50 percent.<sup>7</sup> We have also proposed rates on a regulated  
10 capital structure that includes a 53 percent equity component as supported by  
11 Witness Sullivan.

12 **Q. PLEASE DESCRIBE THE NEED TO ADDRESS COAL ASH BASINS.**

13 A. For decades, along with other electric utilities across the country, DE  
14 Carolinas followed industry practices managing and storing coal ash  
15 consistent with regulations that evolved throughout that time. DE Carolinas  
16 has become subject to both federal and state regulations that require it to take  
17 additional significant actions to manage and permanently and safely close its  
18 ash basins in ways that protect human health and the environment. In April  
19 2015, the Environmental Protection Agency promulgated new rules regarding  
20 the management and closure of ash basins. All of DE Carolinas' ash basins  
21 must be closed under these rules. Like other utilities around the country  
22 similarly affected by such regulation, the Company has begun the process of

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<sup>7</sup> As described in Witness Sullivan's testimony, while the Company fully supports Witness Hevert's testimony and analysis that yielded a recommended ROE of 10.75 as filed in this case, the Company is proposing rates which include a 10.50 percent ROE as a rate mitigation measure.

1 closing, or submitting plans to close, ash basins in accordance with these  
2 regulations. Additionally, the Company is adding dry ash, bottom ash and  
3 Flue Gas Desulfurization blowdown handling systems to our coal-fired plants  
4 that are not already so equipped. We are also modifying all of our active and  
5 decommissioned coal-fired plants to divert stormwater and low-volume  
6 wastewater away from the basins.

7 As explained by Witness Smith, the Company is requesting recovery  
8 of ash compliance costs in the amount of \$242 million over 5 years. These  
9 costs were incurred from January 1, 2015 through September 30, 2018, plus  
10 cost projected as of the time of this filing from October 1, 2018 to December  
11 31, 2018. The Company is seeking recovery of these costs over a five year  
12 period in order to mitigate customer rate impacts associated with these  
13 significant compliance expenses. The Company expects to continue to invest  
14 significant amounts related to coal ash compliance after the December 2018  
15 cut-off in this case. However, instead of requesting recovery of an ongoing  
16 level of these costs in this case, the Company is requesting the Commission  
17 approve a continuation of the deferral for costs incurred beyond this case.

18 Witness Kerin provides significant detail on the prudence of the  
19 Company's actions regarding ash basin creation, management and closure,  
20 and he is the Company's subject matter expert in this area. Witness Wright  
21 further speaks to the Company's actions related to coal ash and the regulatory  
22 policy surrounding cost recovery. However, it's worth mentioning that for  
23 decades, the Company has worked to provide electricity that is reliable, is

1 delivered using the best practices and latest technologies at the time, and is  
2 available at reasonable rates. And for decades, reliable, affordable electricity  
3 was made possible—nationwide—by coal. In its day, coal was king. It fueled  
4 both a growing economy and population, along with demands for electricity  
5 across South Carolina, meeting the energy needs of communities from the  
6 mountains to the coast. It was the most advanced technology of its time.

7 With coal came coal ash – the by-product of decades of generating  
8 electricity from this resource. In the early days, the best practice in the  
9 industry was to let coal ash simply go out the top of the smokestack. Later,  
10 changing regulations and industry best practices led to the use of emissions  
11 control equipment and ash basins to dispose of coal ash, often in a pond-like  
12 environment. Today, instead of being handled wet and stored in ponds, coal  
13 ash is increasingly being handled dry and disposed of in lined landfills, or  
14 beneficially recycled for use in construction products or as fill material in  
15 place of dirt. In fact, Duke Energy recycled 78 percent of coal combustion  
16 byproducts in 2017, and that includes DE Carolinas recycling or beneficially  
17 re-using the ash that is produced at our coal-fired plants. We have retired half  
18 of the coal-fired plants owned by Duke Energy in the Carolinas. And now, we  
19 are closing all ash basins across the Carolinas in compliance with new,  
20 sweeping state and federal laws and regulations, and as part of Duke Energy's  
21 commitment to provide increasingly reliable, cleaner power to customers at  
22 reasonable rates. Like any waste, we must ensure that coal ash is responsibly  
23 managed, just as we have done with spent nuclear fuel.

1           As we transition to a smarter energy future by leveraging new  
2           technology and cleaner power sources, we must remember the many benefits  
3           coal has provided over the past several decades. Because our customers have  
4           benefited from coal-produced electricity, the cost of responsibly managing  
5           waste from consuming coal for electricity must also be borne by our  
6           customers. This is an investment to help close out the coal era and push  
7           forward to a new, cleaner energy future.

8   **Q.   PLEASE DESCRIBE THE COMPANY'S GRID IMPROVEMENT**  
9   **PLAN.**

10   A.   From routine, day-to-day activities to powering high-tech manufacturing, the  
11       electric power grid is the backbone of South Carolina's digital economy; – not  
12       just today, but also 5, 10, 20 years in the future. As recent events have  
13       reinforced, the Company must be ready for severe weather before it strikes,  
14       and reduce the impact of storms that are worsening in frequency and intensity.  
15       DE Carolinas must be vigilant and prepare now for the very real threat of  
16       cyber and physical attacks. DE Carolinas also needs to provide more options  
17       for customers to allow more control over the way they use electricity. And as  
18       renewable energy technologies like solar energy, battery storage, micro-grids  
19       and electric vehicles become more affordable and accessible; the Company  
20       needs to take steps now to ready the grid to support the growth of these  
21       technologies that are important to South Carolina's energy future.

22           The Company's Grid Improvement Plan addresses all of these needs,  
23       while also managing costs. This Grid Improvement Plan was built using

1 advanced data analytics that helped identify strategic opportunities for  
2 improvement. It also incorporates extensive input from customers, customer  
3 and environmental advocacy groups and others who helped to refine this plan  
4 to better serve their energy needs and the needs of our state. The Grid  
5 Improvement Plan includes investments designed to strengthen the grid and  
6 mitigate the impact of major storm events, as well as to harden and defend the  
7 grid against critical physical and cybersecurity risks. Examples of the  
8 Company's multi-layered improvements designed to protect the grid include:  
9 updating grid technology including monitoring and communication  
10 equipment; installing protective devices to limit access to critical systems and  
11 minimize outages from physical or cyber-attack; and relocating, raising or  
12 reinforcing equipment in flood-prone areas.

13 As discussed in the testimony of Witness Oliver, components of Duke  
14 Energy's Grid Improvement Plan operationally fall into one of three  
15 categories: (1) compliance-driven programs that protect the grid; (2) programs  
16 that leverage advanced technologies to modernize the grid; and (3) projects  
17 and programs that work to optimize customers' experience. We constructed  
18 the Grid Improvement Plan, with stakeholder feedback, to address the risks  
19 and opportunities that the analysis revealed. The Plan seeks to balance the  
20 pace, scope, location, and timing of our work to address a diverse set of  
21 customer and stakeholder needs. As we built the Grid Improvement Plan  
22 proposed in this case, the Company has also kept the needs of our rural and  
23 low-income customers in mind and sought to develop a strategy that

1 maximizes benefits to customers and the state, while keeping costs as low as  
2 possible. The Company has sought out customer and stakeholder  
3 perspectives, including multiple stakeholder workshops, as part of the process  
4 before proposing this plan to the Commission.

5 **Q. PLEASE DESCRIBE THE INVESTMENT IN THE CUSTOMER**  
6 **INFORMATION SYSTEM (“CIS”)?**

7 A. At 30 years old, the Company’s current CIS system is no longer supported or  
8 upgradeable, and is unable to continue to be fully integrated into Duke  
9 Energy’s other systems. The new system will be complementary to future  
10 technology, and includes the ability to interface with new smart meters to  
11 enable customers to more easily start and stop service, ask questions about  
12 their bills, view their usage, and allow the Company to identify the optimal  
13 rate plan for each customer when asked. Customers expect greater access to  
14 information about their account and energy use, and greater control over that  
15 information. Through the consolidation of the older information systems into  
16 a new information system, the Company will be able to deliver a customer  
17 experience that will simplify, strengthen and advance our ability to serve our  
18 customers in this digital age.

19 As explained by Witness Hunsicker, continued investment in an  
20 antiquated technology platform is neither practical nor sustainable, and would  
21 cost considerably more in the long run than replacing the system in its  
22 entirety. Customer information systems, just like any other software solution,

1           periodically require replacement to deliver on capabilities required by  
2           business operations, and more importantly, customers.

3   **Q.    COULD YOU PLEASE DESCRIBE THE COMPANY’S INVESTMENT**  
4   **IN AMI?**

5   A.    To bring customers additional choices and insight on their usage, we have  
6           deployed AMI technology, including smart meters, in the service territory in  
7           South Carolina. As explained by Witness Schneider, these smart meters will  
8           work in tandem with many of our grid investments. Moreover, modern meters  
9           will also provide crucial information to our CIS system, providing customers  
10          greater control, convenience and choice over their energy usage, while also  
11          giving customers the opportunity to budget, save time and save money. DE  
12          Carolinas has approximately 590,000 smart meters installed as of September  
13          2018, and deployment of AMI is virtually complete. These meters for South  
14          Carolinians are being manufactured by South Carolinians employed by Itron  
15          Inc. in Oconee County, South Carolina. The AMI technology will pave the  
16          way for programs that will allow customers to stay better informed during  
17          outages, control their due dates, avoid deposits, to be reconnected faster, and  
18          to better understand and take control of their energy usage, and ultimately,  
19          their bills.

20   **Q.    PLEASE EXPLAIN THE COMPANY’S PROPOSAL FOR A FEE-FREE**  
21   **CREDIT/DEBIT CARD PROGRAM.**

22               Currently, customer payments made by check, cash, free pay stations,  
23               and Automated Clearing House, using bank drafts or paperless billing, are free

1 of charge. The costs for the Company to offer these methods are paid for by  
2 all customers and not recovered exclusively by those specific customers that  
3 use that method of payment. Residential customers using a credit or debit  
4 card through any payment channel or a one-time ACH payment via phone or  
5 on the Company's website are subject to a \$1.50 convenience fee. The  
6 convenience fee is collected by the Company's third-party vendor, SpeedPay.  
7 The Company receives no portion of this fee.

8 As customer expectations change and more payments are done  
9 electronically, utility companies are beginning to offer fee-free payment  
10 programs for their residential customers for all methods of payment. As  
11 supported by the National Association of State Utility Consumer Advocates  
12 (NASUCA) in Resolution 2012-07, "Urging Utilities to Eliminate  
13 'Convenience Fees' for Paying Utility Bills with Debit and Credit Cards and  
14 Urging Appropriate State Regulatory Oversight,"<sup>8</sup> and as further explained  
15 below, the Company believes it is reasonable to offer a fee-free payment  
16 program for all payment methods to its residential customers, and recover the  
17 costs associated with such a program from all customers through rates. The  
18 requirement to pay a convenience fee when making a payment is one of the  
19 largest frustrations customers experience. Customers have grown accustomed  
20 to paying for other products and services with a credit card or debit card  
21 without a separate, additional fee. Duke Energy Corporation has seen 10  
22 percent average year over year growth in credit/debit card transactions over

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<sup>8</sup> <https://nasuca.org/2012-07-urging-utilities-to-eliminate-convenience-fees-for-paying-utility-bills-with-debit-and-credit-cards-and-urging-appropriate-state-regulatory-oversight/>



1 the past several years, and with this change we expect the growth rate to  
2 double – so 20 percent more transactions in 2019 than in 2018. Eliminating  
3 these fees for the Company’s residential customers would provide additional  
4 options for residential customers to pay their bills. As discussed in the  
5 NASUCA Resolution 2012-07, additional fees for paying utility bills can be  
6 burdensome to customers.

7 We also know that our customers want this option. The Company’s  
8 Customer Service department routinely receives inquiries about no-cost  
9 electronic payment options. In the Company’s 2018 Monthly Residential  
10 Transaction Surveys, residential customers noted some of the following when  
11 asked what they liked least about Duke Energy:

12 *“Not charge a fee for using a credit card.”*

13 *“The fact that you can’t pay online without being charged. Everybody*  
14 *else has a free service to pay online.”*

15 *“Take away the service charge. I just don’t understand why you want*  
16 *to charge somebody \$1.50.”*

17 *“The only thing that I can say is I think they want to penalize you. If*  
18 *you want to pay a certain way, they charge you extra.”*

19  
20  
21  
22 We think our customers will appreciate being able to use credit cards with the  
23 Company the same way they can with other companies.

1 **Q. IS THE COMPANY PROPOSING A FEE-FREE CREDIT/DEBIT**  
2 **CARD PROGRAM FOR ITS COMMERCIAL AND INDUSTRIAL**  
3 **CUSTOMERS AT THIS TIME?**

4 A. Not at this time. Because commercial and industrial customers generally have  
5 more methods in which to pay, and their average payment amount is  
6 significantly higher than residential (which leads to higher processing costs),  
7 at this time the Company is not proposing a fee-free program for commercial  
8 and industrial customers.

9 **IV. CUSTOMER LANDSCAPE**

10 **Q. CAN YOU PUT DE CAROLINAS' RATES INTO PERSPECTIVE?**

11 A. Yes. First, we believe that electricity in South Carolina remains an excellent  
12 value, even with our proposed adjustment. Over the past year, gas prices, a  
13 basic consumer good, is up 3.5 percent. However, the cost of electricity in the  
14 Southeast has dropped 2.6 percent from September 2017 to September 2018.  
15 Electricity provides fundamental value to our daily life by powering  
16 appliances, heating and cooling homes, cooking food and allows us to use our  
17 televisions, computers, charging devices such as tablets and smartphones and  
18 other devices that are now a common part of our everyday lives. Even with  
19 DE Carolinas' proposed rate adjustment our customers will continue to pay  
20 rates below the national average and competitive with other utilities in our  
21 region.

1   **Q.    IS THE COMPANY PROACTIVELY EDUCATING CUSTOMERS**  
2       **ABOUT ITS PROPOSALS IN THIS CASE?**

3    A.    Yes. DE Carolinas is committed to being transparent and keeping customers  
4       informed about the costs included in their bills and proposals to adjust rates.  
5       The Company has engaged in Grid Workshops to describe and help shape our  
6       Grid Improvement Plan, and we regularly publicly communicate about our  
7       environmental compliance work. We have also been very transparent about  
8       our investments to build a smarter energy future for our customers powered by  
9       cleaner, more efficient energy sources such as highly efficient natural gas,  
10      carbon-free nuclear energy, renewable resources like hydroelectric generation  
11      and solar energy.

12               Now that the Company's request has been filed, DE Carolinas will  
13      utilize a section of the Duke Energy website to include videos, fact sheets and  
14      direct information about the components of this case. In addition to the  
15      website, the Company has and will continue to inform and educate our  
16      customers as well as those community facing employees who interact with  
17      their customers about our request.

18   **Q.    HAS THE COMPANY CONTINUED ITS ONGOING EFFORTS TO**  
19       **MITIGATE CUSTOMER RATE IMPACTS?**

20   A.    Yes. The Company relies on a variety of fuel sources to generate power and  
21       has prudently managed its operating costs. This fuel diversity allows DE  
22       Carolinas to choose how to generate electricity – day by day, hour by hour –  
23       based on the cost of the fuel needed to run its different plants. DE Carolinas

1 has managed its costs through continuous improvement to its operations  
2 (thereby benefitting customer through efficiency-derived controlled costs) as  
3 well as through significant cost containment policies and activities.

4 The Company is also committed to performance excellence, and has  
5 been recognized for it and the cost savings it brings. For example, DE  
6 Carolinas' three nuclear plants exceeded 92.5 percent capacity factor, and the  
7 company recorded the 2<sup>nd</sup> highest net annual output, falling just short of the  
8 generation record established in 2016 and providing 62 percent of the  
9 Company's total power generation during the period. Also, as explained by  
10 Witness Capps, I am proud that Duke Energy has been recognized by the  
11 Nuclear Energy Institute ("NEI") multiple times with Top Industry Practice  
12 ("TIP") awards. In 2015, the Company's Excellence in Cost Management  
13 program received an award for Vision, Leadership and Ingenuity. This  
14 program was developed and designed in response to the competitive economic  
15 pressures facing nuclear plants nationwide. The goal is to enhance  
16 sustainability in cost savings along with fleet performance. The recognition  
17 took note that Duke Energy saved more than \$35 million in 2014 while  
18 increasing worker safety, innovation and employee engagement. In 2017, the  
19 Company's nuclear procurement engineering organization won a TIP award  
20 when they developed two applications that were implemented fleet-wide in  
21 March 2016 and that increase nuclear safety by ensuring procurement  
22 engineering and quality receipt activities are correctly prioritized to support  
23 critical work activities and schedules.

1   **Q.    WHAT OTHER INITIATIVES HAS THE COMPANY IMPLEMENTED**  
2       **TO HELP ITS CUSTOMERS REDUCE THEIR ELECTRICITY**  
3       **BILLS?**

4   A.   Duke Energy wants to help customers understand their energy use,  
5       empowering them to save money on their electric bill. DE Carolinas is  
6       continuing to expand and enhance its portfolio of demand-side management  
7       (“DSM”) and energy efficiency (“EE”) programs because these programs  
8       have proven to be one of the most effective means to reduce energy costs,  
9       offset the need for new power plants, and protect the environment. DE  
10      Carolinas’ already robust portfolio of EE programs is designed to provide  
11      offerings that engage and educate customers around their energy usage and  
12      efficiency, as well as empower them with financial incentives to invest in  
13      efficiency improvements. Duke Energy offers customers more than a dozen  
14      energy-saving programs for every type of energy user and budget. The  
15      Company’s EE programs currently save its customers in the Carolinas 4.3  
16      billion kWh annually or more than \$357 million, which is about 5.4 percent of  
17      total retail kWh sales. Combined, its DSM and EE programs offset capacity  
18      requirements by the equivalent of more than seven power plants. The  
19      Company’s growing portfolio of DSM programs, which are designed to  
20      manage customer demand for electricity, further offer customers opportunities  
21      to lower their bills by providing them with financial incentives in exchange  
22      for shifting the timing of their electricity use from peak to non-peak periods,

1           thereby helping the Company to reduce fuel costs during the periods when  
2           energy costs the most to produce.

3           The Neighborhood Energy Saver Program is a residential EE program  
4           targeted at low-income customers that includes the direct installation of a  
5           number of EE measures. DE Carolinas has implemented the program utilizing  
6           a neighborhood engagement, door-to-door strategy. Through the program, a  
7           comprehensive package of EE measures is installed at no direct cost to the  
8           customer. Since its inception, we've helped more than 10,700 DE Carolinas  
9           customers in South Carolina save nearly 1.3 million kWh each year through  
10          2017. This means the average household could save more than \$45 per year  
11          on energy costs. Equally important, each participating household is given  
12          information and education along with EE tips and information about other  
13          programs that can help them reduce their bills.

14   **Q.   ARE THERE PROGRAMS IN PLACE TO OFFER FINANCIAL**  
15   **ASSISTANCE TO YOUR CUSTOMERS?**

16   A.   Yes. We know that for many customers, any savings on their power bill can  
17          make a big difference in their monthly budget. Share the Warmth is an  
18          assistance program for DE Carolinas customers in need, helping low-income  
19          individuals and families cover home energy bills. Eligibility is determined by  
20          the county Department of Social Service (DSS) agencies. The Share the  
21          Warmth program is funded by contributions from customers, employees, and  
22          the Duke Energy Foundation. DE Carolinas customers are able to add a one-  
23          time or recurring contribution to their bills. Since its inception, the Share the

1 Warmth program has provided approximately \$8.6 million in assistance to DE  
2 Carolinas' customers in South Carolina. We have also made it easier for  
3 assistance agencies to make commitments to help financially challenged  
4 customers with their bills through use of our agency portal.

5 The Company also offers optional bill management programs designed  
6 to assist eligible customers in either managing fluctuations in their monthly  
7 bill or who are having difficulty paying their entire bill by the due date.

8 **Q. WHAT OTHER COMPANY EFFORTS ARE UNDERWAY TO ASSIST**  
9 **CUSTOMERS WITH THEIR ABILITY TO PAY?**

10 A. Duke Energy is committed to helping all customers keep their accounts and  
11 their service in good standing. Often, simply spreading energy costs equally  
12 over time can help customers manage their costs and pay their bills. Payment  
13 plans are important not only to low-income customers, but to other residential  
14 customers who may have had to adjust their household budgets. DE  
15 Carolinas' Equal Payment Plan allows customers to spread out the impacts of  
16 seasonal fluctuations into twelve equal monthly payments. The Company also  
17 offers payment arrangements in South Carolina to customers unable to pay  
18 their bill by the past due date. Payment arrangements can help customers  
19 avoid interruption of service and help them re-establish control over their  
20 payments.

21 The Company is also leveraging technology to make the payment  
22 arrangement process accessible for customers. Customers can make an  
23 agreement by telephone or via the Company website using a tool that is quick

1 and objective based on their individual account attributes. This solution  
2 provides the customer with payment options and allows the use of our  
3 automated system or website without having to discuss their account with a  
4 specialist. The self-serve and equal payment options help the Company  
5 manage customer service costs while providing fast and efficient service to  
6 customers whose service may be subject to disconnection. We know that self-  
7 service does not work for all customers, so customer service specialists are  
8 still available to discuss payment options and review accounts with  
9 extenuating circumstances.

10 The Company has also developed and implemented several other  
11 programs including a free customized home energy report to inform and assist  
12 with lowering our customers' consumption through energy efficiency. Home  
13 Energy House Call is a free in-home energy assessment, valued at \$180,  
14 which provides customers living in single family homes with information  
15 about their unique energy use and steps they can implement to become more  
16 energy efficient. A certified expert checks the home for air leaks, examines  
17 insulation levels, checks appliances and more. In addition, customers receive a  
18 free energy efficiency starter kit, containing efficiency measures valued at  
19 approximately \$30, to help them start saving right away. DE Carolinas'  
20 Residential Multi-family Energy Efficiency Program ensures that customers  
21 living in multi-family residences also have opportunities to save by providing  
22 multi-family residents with electric water heaters. These EE measures are  
23 provided at no direct cost to the customer and are installed by the Company.



1           In addition, the High Bill Alerts program was implemented for DE  
2           Carolinas customers in South Carolina. The program proactively notifies  
3           customers via email when their forecasted electricity consumption cost for  
4           their next bill is 30 percent or \$30 higher than their previous month's bill. The  
5           Company also offers a Lower My Bill Toolkit, which in five easy steps helps  
6           the customer track their energy usage and reduce energy costs.

7   **Q.   HOW HAS THE COMPANY FOCUSED ON DELIVERING**  
8   **EXCELLENT CUSTOMER SERVICE?**

9   A.   We are working every day to explore new ways to enhance the customer  
10       experience. Customer satisfaction ("CSAT") is a key focus area for DE  
11       Carolinas. The Company operates a robust CSAT program, which includes  
12       both national benchmarking studies and proprietary transaction and  
13       relationship CSAT studies. Results from these studies are analyzed in vigorous  
14       quarterly data review sessions, with findings driving improvements to  
15       processes, technology and behaviors – all in an effort to continuously improve  
16       CSAT. The 2018 J.D. Power Electric Utility Customer Satisfaction Study  
17       ranked DE Carolinas in the top quartile for performance in all categories  
18       (Power Quality and Reliability, Price, Billing and Payment, Corporate  
19       Citizenship, Communications, and Customer Service).

20       DE Carolinas measures overall customer satisfaction and perceptions  
21       about the Company in our proprietary relationship study, the "Customer  
22       Perceptions Tracker." Feedback is requested from residential and  
23       small/medium business customers, and all large business electric customers,

1 to better understand their customer experience with Duke Energy and overall  
2 perceptions of the Company. Duke Energy SC Residential satisfaction scores  
3 are up four points on average from 2014.

4 In addition to our relationship study, DE Carolinas utilizes Fastrack,  
5 the Company's proprietary transaction study, to measure overall customer  
6 satisfaction with our operational performance (i.e. responding to and resolving  
7 customer service requests.) Each year, thousands of interviews are conducted  
8 with our customers by a third-party research supplier upon the completion of  
9 the customer's service request. The survey questions cover the entire  
10 experience, from the time the customer picks up the phone to contact the  
11 Company or submits a service request online, until the issue is resolved and  
12 the truck drives away from the customer's property. Analysis of these ratings  
13 helps to identify specific service strengths and opportunities that drive overall  
14 satisfaction and to provide guidance for the implementation of process and  
15 performance improvement efforts. Through mid-2018, roughly 79 percent of  
16 Duke Energy Carolinas residential customers express high levels of  
17 satisfaction with these key service interactions (Start/Transfer Service (88  
18 percent), Outage/Restoration (81 percent), and Street Light Repair (67  
19 percent).

20 Also, in 2017, 'Customer Satisfaction' continued as one of a select  
21 number of goals included in the annual incentive compensation plans for DE  
22 Carolinas employees. By connecting customer satisfaction directly to  
23 compensation, each employee is "invested" in improving and maintaining

1 high customer satisfaction for all Duke Energy utilities, including DE  
2 Carolinas. Results are monitored at the enterprise level, state level, and by  
3 customer segment, so problems can be identified and corrected. This also  
4 allows the Company to identify and apply best practices across all of our  
5 jurisdictions.

6 We also continue to enhance our customer service practices to address  
7 language, cultural and disability barriers. Among other accommodations, the  
8 Company's customer service center offers customer service and  
9 correspondence in Spanish, handles calls from TTY devices (text telephones),  
10 offers bills in Braille, and accepts pledges to pay from social service agencies.

11 **V. ECONOMIC DEVELOPMENT AND EDUCATION EFFORTS**

12 **Q. DOES DE CAROLINAS VIEW ECONOMIC DEVELOPMENT AS A**  
13 **VITAL PART OF ITS BUSINESS?**

14 A. Yes. Making smart investments in energy infrastructure can help to attract  
15 business and industry, bring good jobs to the state, and promote smart growth  
16 and economic prosperity across South Carolina. It takes investment to  
17 provide the reliability our customers expect – investment in power plants,  
18 poles and wires, substations and meters. But all of that investment provides  
19 critical infrastructure that supports businesses and jobs, schools and  
20 universities, stores and the products consumers purchase, and a foundation to  
21 ensure the future remains bright for communities across the State. Over the  
22 last century, Duke Energy has invested millions of dollars into local  
23 economies across the state. When a new power plant is built or transmission

1 line constructed, it creates jobs and results in money spent at the local level  
2 while creating a tax base that supports local infrastructure and services.  
3 Economic development efforts are critical to retaining and growing the  
4 industrial base and manufacturing load so that the state can experience  
5 continued job growth and economic success. This helps keep electric rates  
6 competitive and mitigates rate increases by enabling costs to be spread across  
7 a larger customer base.

8 **Q. PLEASE DESCRIBE THE COMPANY'S ECONOMIC**  
9 **DEVELOPMENT EFFORTS IN SOUTH CAROLINA.**

10 A. DE Carolinas has an Economic Development team responsible for retaining  
11 and supporting expansion opportunities for existing customers while also  
12 targeting potential new customers and supporting efforts to recruit them to the  
13 service area. In addition to coordinating with, or participating in, statewide or  
14 community task forces or initiatives, the team works with businesses on site  
15 selection and expansion opportunities. Since 2005, 54 sites totaling over  
16 23,831 acres in the Duke Energy Carolinas' South Carolina service territory  
17 have participated in Duke Energy's Site Readiness Program. The Duke  
18 Energy Site Readiness Program is intended to identify, assess, improve, and  
19 increase awareness of industrial sites in Duke Energy's service territories.  
20 The program also offers a matching grant of up to \$10,000 to implement  
21 improvements to viable sites. Currently there are 13 major projects  
22 constructed on sites that went through the program, resulting in over 2,548  
23 new jobs and over \$900 million in capital investment.

1           The Company's ongoing Carolinas Investment Fund also provides  
2           support for projects in the Carolinas service area aimed at recruiting new  
3           industry, retaining existing jobs, and expanding existing customer operations,  
4           by partnering with state or local economic development organizations to  
5           provide appropriate incentives. These projects typically include site or  
6           building development and related infrastructure or other site preparation  
7           requirements. The grants from the Carolinas Investment Fund serve as  
8           important discretionary supplements to incentives offered by the state or local  
9           entities. To qualify for the grants the recipient must create certain numbers of  
10          new jobs or make capital investments, subject to minimum dollar amounts.  
11          Since 2013, DE Carolinas has contributed to the creation of more than 9,940  
12          jobs in South Carolina and approximately \$4,837 million in capital  
13          investments.

14          Much of this effort has been aimed at encouraging new industrial  
15          investments. We believe a healthy industrial base is good for all of our  
16          customers. As new manufacturing businesses are established and existing  
17          manufacturing businesses expand, they typically create a significant multiplier  
18          effect that directly and indirectly produces additional jobs and investments.  
19          However, our efforts for economic development are not focused solely on  
20          industrial customers.

21          Training and recruiting a highly skilled workforce is also essential to  
22          maintaining the competitiveness of our region. Over the last 3 years, Duke  
23          Energy has invested almost \$500,000 to support the development, promotion,

1 and delivery of workforce training programs through South Carolina's  
2 Technical and Community Colleges. We are confident that our sustained  
3 economic development efforts will continue to provide positive results here in  
4 South Carolina and benefit customers by keeping rates competitive over the  
5 long term through an increased customer base served by our plant investment.

6 **VI. POWERING THE FUTURE**

7 **Q. DO THE FUTURE PLANS OF THE COMPANY SUPPORT THE**  
8 **ECONOMIC DEVELOPMENT PROSPECTS IN SOUTH CAROLINA?**

9 A. Yes. Our infrastructure and CIS investments will help power the future in  
10 South Carolina, not only for the economy as a whole, but the manner in which  
11 our customers will consume, monitor and manage their electricity  
12 consumption. While we have come a long way in modernizing our generation  
13 systems, we now need to focus similarly on our grid, metering and  
14 information technology systems. These investments are important for us to  
15 continue reliably serving customers in the future. I discuss these investments  
16 below. While all of these investments are not included in this case, it's  
17 important to share our vision of a smarter energy future.

18 **Q. PLEASE DESCRIBE HOW THE COMPANY WILL BUILD A**  
19 **SMARTER ENERGY FUTURE.**

20 A. The grid is the backbone of the new digital economy. South Carolina is  
21 served through a multi-state electric system that includes 13,100 miles of  
22 transmission lines, more than 100,000 miles of underground distribution lines,  
23 and more than 1,600 substations. For the DE Carolinas distribution system,

1 approximately 2,970 distribution line miles and 23,700 transformers were  
2 added over the last five years. As one of the fastest growing states in the  
3 nation, South Carolina's population now tops 5 million and we are projecting  
4 over 400,000 more, or a 9 percent increase by the year 2030. That's creating  
5 real demands on our grid.

6 The Grid Improvement Plan proposed in this case is a long-term  
7 initiative, and the Company has provided its multi-year plan built upon  
8 strategic, data-driven investments to improve reliability to avoid outages and  
9 speed restoration; harden the grid to protect against cyber and physical threats;  
10 expand solar and other innovative technologies across a two-way, smart-  
11 thinking grid; and give customers more options and control over their energy  
12 use and tools to save money. The Company proposes additional rate changes  
13 in 2020 and 2021 to reflect the remaining years of the multi-year plan, with  
14 costs captured in a regulatory asset for recovery between rate changes.

15 Not only does Duke Energy employ thousands of workers in the State,  
16 it also supports an extensive local supply chain that extends to virtually every  
17 county in South Carolina. In addition, the Grid Improvement Plan that Duke  
18 Energy has recently committed to in South Carolina will not only add to the  
19 economy of South Carolina, it will help to avert economic losses that result  
20 from unplanned outages. We commissioned economic research prepared by  
21 Joseph C. Von Nessen, Ph.D. "The Economic Impact of Duke Energy: A  
22 Statewide and Regional Analysis"<sup>9</sup> that indicates the following: (1) The  
23 annual economic impact of Duke Energy on the state of South Carolina totals

<sup>9</sup> [http://www.resn.com/Von\\_Nessen\\_Duke\\_SC\\_EIS\\_Nov2018\\_FD.pdf](http://www.resn.com/Von_Nessen_Duke_SC_EIS_Nov2018_FD.pdf)

1 approximately \$6.6 billion. This figure reflects the dollar value representing  
2 all final goods and services produced in South Carolina that can be attributed  
3 (either directly or indirectly) to Duke Energy. This impact corresponds to  
4 15,189 jobs and \$969.4 million in labor income that would not exist  
5 otherwise. (2) This \$6.6 billion impact extends to every county in South  
6 Carolina, with the highest impacts occurring in the counties of York (\$1.1  
7 billion), Oconee (\$1.1 billion), Greenville (\$838.3 million), Darlington  
8 (\$756.8 million), and Spartanburg (\$686.4 million). The magnitude of the  
9 Grid Improvement Plan on South Carolina's economy is roughly equivalent to  
10 a new major automotive manufacturing plant locating in the State.

## 11 **VII. CONCLUSION**

12 **Q. WHAT IS THE KEY OBJECTIVE OF THE COMPANY'S**  
13 **REQUESTED GENERAL RATE ADJUSTMENT?**

14 **A.** The Company's most important objective is to continue providing safe,  
15 reliable, affordable, and increasingly clean electricity to our customers with  
16 high quality customer service, both today and in the future. Our request for a  
17 rate increase is made to support investments that benefit our customers while  
18 preserving the Company's financial position. We strive to ensure that those  
19 investments are made in a cost-effective manner that retains the level of  
20 service and competitive rates for our customers.

21 **Q. DOES THIS CONCLUDE YOUR PRE-FILED DIRECT TESTIMONY?**

22 **A.** Yes.